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1. (a). Briefly explain the main difference between *Java Standard Edition (JavaSE)* and *Java Enterprise Edition (JavaEE)*.

[6 marks]

Java SE is generally used to develop stand-alone programs, tools, and utilities. Java EE specification is a set of APIs built on top of Java SE. It provides a runtime environment for running multi-threaded, transactional, secure and scalable enterprise applications. Topic 3 - Page 9

- (b). Briefly explain what is meant by *Spaghetti Codes*?

[6 marks]

complex and tangled control flow structure, making it difficult to read, understand, and maintain. Topic 1 - page 23

- (c). List down three (3) types of *Enterprise JavaBeans (EJB)*.

[6 marks]

Entity, Message driven, Session. Topic 1 - Page 34

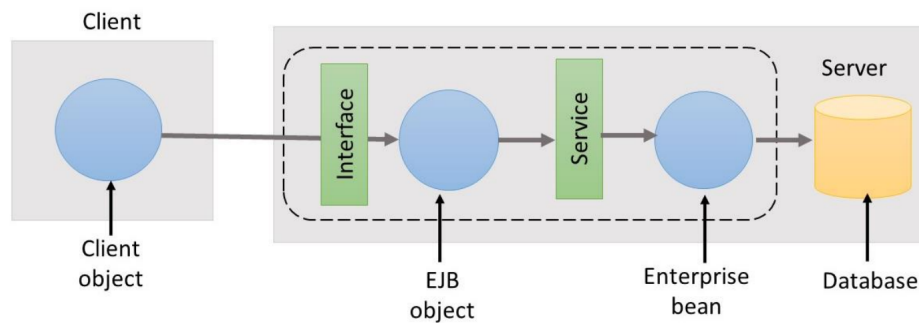
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- (d). Illustrate the process of the client requesting a service from a Java bean, including all the necessary components, using a diagram.

[18 marks]

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- (e). Describe how the *Remote Message Invocation (RMI)* in Java is **Safe** and **Secure**.

[6 marks]

RMI uses built-in Java security mechanisms that allows the system to be safe when users downloading implementations. Topic 2 - Page 19

- (f). How does using a **WAR (Web Archive)** file help in deploying and managing JavaEE web applications?

[8 marks]

a single, portable unit containing all the necessary components of a web application (HTML, CSS, JavaScript, JSPs, servlets, libraries, configuration) Topic 3 - Page 17

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2. (a). Briefly explain the difference between Redirect and Request dispatch.

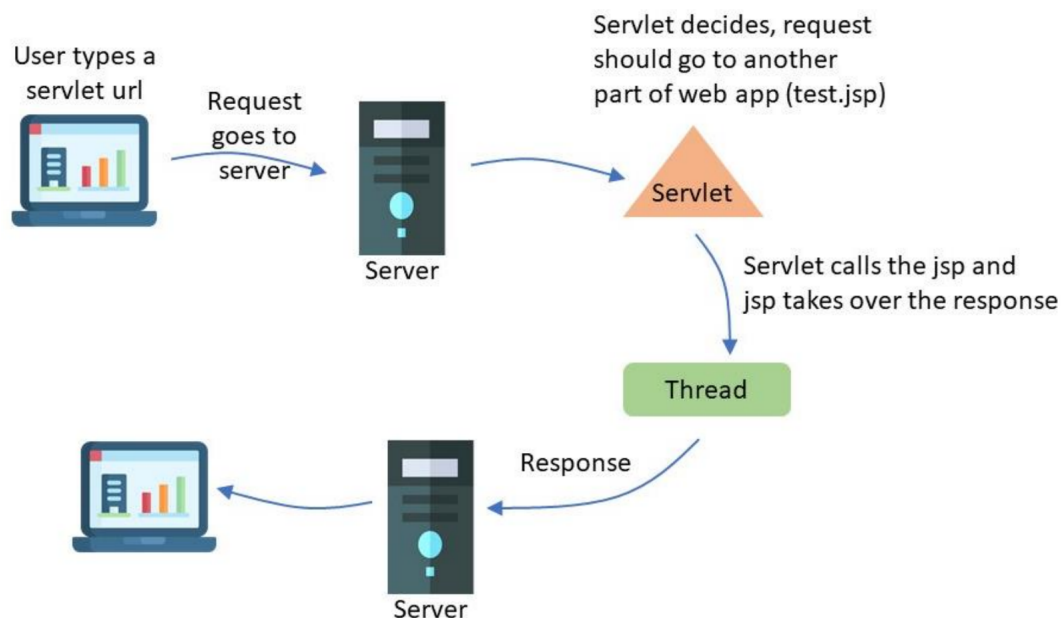
[10 marks]

In request dispatch user never knows the request is send to some other party, because the URL never change. But in redirect, servlet ask the client to connect to the redirected URL. So the request will be going from the client. Topic 7 - Page 71

- (b). Illustrate the process of Request dispatch using a diagram including the essential components.

[15 marks]

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- (c). “Using of uniform interface make the RESTful applications simple, lightweight and fast.” Explain how it happens.

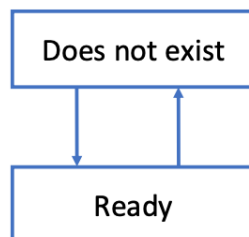
[15 marks]

By adhering to a consistent set of well-defined interfaces (typically based on HTTP methods like GET, POST, PUT, DELETE, and standard media types like JSON or XML), the client and server become loosely coupled. The client doesn't need to know the specific implementation details of the server, and the server can evolve its internal logic without breaking existing clients, as long as it maintains the uniform interface. Topic 9 - Page 9

- (d). Illustrate the life cycle of Stateless session bean.

[6 marks]

Topic 11 - Page 34



- (e). List two (2) annotations that can be used to decorate a Stateless session bean

[4 marks]

@PostConstruct, @PreDestroy -Topic 11 - page 35
